CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

August 1, 1997 / Vol. 46 / No. 30

MMWR™
MORBIDITY AND MORTALITY WEEKLY REPORT

Outbreak of Cyclosporiasis — Northern Virginia-Washington, D.C.-Baltimore, Maryland, Metropolitan Area, 1997

During July 1997, state and local health departments in Virginia, the District of Columbia (DC), and Maryland received reports of clusters of cases of cyclosporiasis associated with events (e.g., luncheons) held in their jurisdictions during June and July. This report describes the preliminary findings of the investigation of a cluster in Virginia and summarizes the findings from ongoing investigations of the other clusters. Fresh basil has been implicated as the probable vehicle of infection.

Alexandria, Virginia

On July 7, a company physician reported to the Alexandria Department of Health (ADOH) that most of the employees who attended a corporate luncheon on June 26 at the company's branch in Fairfax, Virginia, had developed gastrointestinal illness. The luncheon was catered by the Alexandria branch of company A. Company A operates nine stores in the northern Virginia-DC-Baltimore, Maryland, metropolitan area: a central production kitchen and retail food store in Bethesda, Maryland; and eight branch stores, each with a kitchen and retail store.

On July 11, the health department was notified that a stool specimen from one of the employees who attended the luncheon was positive for *Cyclospora* oocysts. A clinical case of cyclosporiasis was defined as onset of at least four gastrointestinal symptoms, such as diarrhea, nausea, vomiting, or abdominal cramps, 1–14 days after the luncheon. All 54 persons who attended the luncheon on June 26 or who ate leftover food on June 27 were interviewed. Of the 54 persons, 48 (89%) had illness that met the clinical case definition, including 17 whose infections were laboratory confirmed by examination of stool specimens. The median incubation period was 8 days (range: 3–12 days). Of the 48 case-patients, 45 had diarrhea (three or more loose stools during a 24-hour period), with a median number of stools per day of seven (range: three to 35 stools) and a median duration of diarrheal illness of 5 days (range: 1–10 days).

Eating the basil-pesto pasta salad, which was served cold, was the only exposure significantly associated with risk for illness in univariate analysis; 43 (98%) of the 44 persons who ate this food item became ill, compared with one (17%) of six persons who did not eat it (relative risk=5.9; $p<0.001$, Fisher's exact test; four ill persons did not

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recall whether they had eaten the salad). The one ill person who did not eat the salad used the spoon from the salad to serve himself leftovers of another food item that he ate on June 27. The salad had been prepared in the Alexandria store with basil-pesto sauce made in the production kitchen in Bethesda. No raspberries or mesclun lettuce, which caused outbreaks of cyclosporiasis in the United States this spring (*1*), were served at the luncheon.

Other Investigations

Twenty-five clusters of cases of cyclosporiasis with at least one laboratory-confirmed case per cluster (i.e., confirmed clusters) have been reported in association with events held in the northern Virginia-DC-Baltimore metropolitan area during June and July. In addition, at least 20 possible clusters for which laboratory confirmation has not yet been obtained have been reported. The dates of the events associated with confirmed and possible clusters ranged from June 16 to July 8 and from June 15 to July 12, respectively. Based on preliminary interview data, the 25 confirmed clusters comprise approximately 185 cases (approximately 60 laboratory-confirmed and 125 clinically defined cases), and the 20 possible clusters, approximately 75 clinically defined cases.

All 25 confirmed clusters were associated with events at which at least one food item that contained fresh basil from company A was served (i.e., fresh basil or a prepared food item that contained fresh basil was either purchased at one of its retail stores or served at a meal prepared in one of its kitchens). Six of the nine company A stores have been linked to clusters. For 23 of the 25 events, a basil-containing item that included basil-pesto sauce (e.g., in a pasta salad or on a sandwich) made at the Bethesda store was served. Company A reported that its practice was to wash basil that it used to make pesto sauce. Eating the food item that contained basil was significantly associated ($p<0.05$) or associated (i.e., all ill persons had eaten the item but the p value was ≥ 0.05) with risk for illness for all six events for which preliminary epidemiologic data are available.

At the direction of the ADOH, on July 12, company A terminated production and sales of pesto sauce made with fresh basil and of food items that contained this sauce and terminated sales of fresh basil. On July 18, health departments in Virginia and Maryland issued press releases to inform the public not to consume fresh basil or fresh basil-containing food items previously purchased from company A. State and local health departments, CDC, and the Food and Drug Administration (FDA) are continuing investigations to determine the sources and distribution of the basil; to determine how basil is handled, processed, and distributed by company A; and to identify modes of contamination. FDA and CDC are testing for the presence of *Cyclospora* oocysts in samples of fresh basil and basil-pesto sauce obtained in mid-July from company A and in leftover pesto sauce obtained from several ill persons.

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Editorial Note: The preliminary findings of the investigations described in this report implicate fresh basil from company A as the probable vehicle of infection for the clusters of cases of cyclosporiasis recently identified in the northern Virginia-DC-Baltimore metropolitan area. To date, all of these clusters have been associated with company A, even though the produce distributor that was the sole supplier for company A during the relevant period provided a large (as yet undetermined) proportion of its inventory of fresh basil to other local establishments. Some of the implicated food items from company A did not contain basil-pesto sauce; therefore, basil, rather than the other ingredients of the pesto sauce, is the probable vehicle. The mode of contamination of the basil is being investigated. *Cyclospora* oocysts are not infectious (i.e., are unsporulated) at the time of excretion. However, the minimum time required for sporulation is unknown, and the conditions in the environment and in foods that expedite sporulation are poorly understood.

In addition to the cases of cyclosporiasis associated with consumption of basil, approximately 1450 other cases of cyclosporiasis, approximately 550 of which have been laboratory confirmed, have been reported in the United States and Canada in 1997. Fresh raspberries imported from Guatemala and mesclun lettuce (specific source not yet determined) have both been implicated as vehicles of infection in outbreak investigations in 1997 (*1*). The implication of three different vehicles of infection during 1997 highlights the need for strengthened prevention and control measures to ensure the safety of produce that is eaten raw and the need for improved understanding of the epidemiology of *Cyclospora*.

The average incubation period for cyclosporiasis is 1 week; in patients who are not treated with trimethoprim-sulfamethoxazole (*2*), illness can be protracted, with remitting and relapsing symptoms. Health-care providers should consider *Cyclospora* infection in persons with prolonged diarrheal illness and specifically request laboratory testing for this parasite. Cases should be reported to local and state health departments; health departments that identify cases of cyclosporiasis should contact CDC's Division of Parasitic Diseases, National Center for Infectious Diseases, telephone (770) 488-7760. Newly identified clusters should be investigated to identify the vehicles of infection and to identify the sources and modes of contamination of implicated foods.

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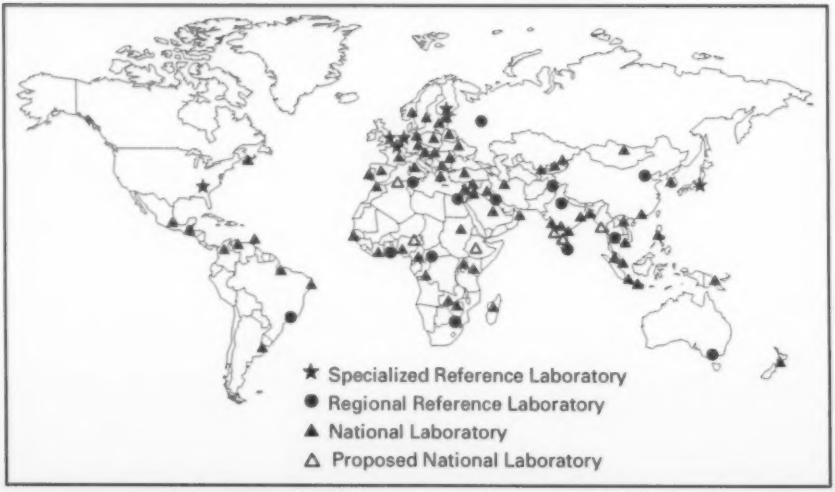
Status of the Global Laboratory Network for Poliomyelitis Eradication, 1994–1996

In 1988, the World Health Assembly adopted the goal of global poliomyelitis eradication by the year 2000 (*1*). Since then, appropriate strategies have been developed, and substantial progress toward the implementation of these strategies has been reported from each region of the World Health Organization (WHO) (*2,3*). The establishment of sensitive surveillance systems to detect polio cases and poliovirus is critical to guide program activities and eventually permit the certification of polio eradication. This report describes the proficiency of the global laboratory network, which operates in each WHO region and provides virologic laboratory support to all countries with endemic polio.

The WHO Global Laboratory Network comprises 67 national laboratories, 14 regional reference laboratories, and six specialized reference laboratories (Figure 1). The national laboratories process stool specimens from cases of acute flaccid paralysis (AFP) to detect poliovirus and identify serotypes. The regional reference laboratories confirm the identity of polioviruses isolated by national laboratories and determine whether the viruses are wild or vaccine-derived. The specialized reference laboratories develop and distribute virus reference reagents, prepare training materials, organize workshops, offer extended bench training, collaborate on special surveillance studies, and conduct research to improve the methods of virologic surveillance. These laboratories also perform genomic sequencing of epidemiologically important polioviruses. The sequence information can be used to distinguish between imported and indigenous polioviruses, estimate the temporal link between cases, identify reservoirs sustaining poliovirus endemicity, track chains of virus transmission, and recognize potential laboratory contaminants (*4*).

FIGURE 1. Location of the World Health Organization national, regional, and specialized reference laboratories and proposed national laboratories for poliovirus — World Health Organization Global Laboratory Network, 1997



Global Laboratory Network — Continued

To ensure the quality of the laboratory network, in 1996 an annual accreditation program was initiated to be completed by all national and regional laboratories by the end of 1997. Six criteria are used for accreditation: 1) completeness and timeliness of reporting; 2) minimum number of specimens tested; 3) nonpolio enterovirus isolation rate of ≥10% from all stool specimens; 4) accuracy of poliovirus detection and identification; 5) scores from annual proficiency tests; and 6) score from an annual on-site review of laboratory operating procedures and practices.

The laboratory network must have the capacity and capability to process a minimum of 26,000 stool specimens per year, based on the expected occurrence of at least one case of nonpolio AFP per 100,000 population aged <15 years. To assess the quality of performance, during 1994–1996, a total of 100 proficiency tests were completed by the 67 national laboratories in five of the eight WHO regions. The proficiency test panels were prepared by the National Institute of Public Health and Environmental Protection (RIVM) in Bilthoven, Netherlands, and consisted of five stool samples containing zero, one, two, or three poliovirus serotypes and/or nonpolio enteroviruses. Correct results were obtained for 332 (66%) of the 500 total samples. Of the samples containing one poliovirus type, 90% were correctly identified; of the samples containing two poliovirus types, 71% were correctly identified; and of the samples containing three poliovirus types, 33% were correctly identified. Of the 168 (34%) samples with incorrect results, 26% were caused by errors in virus isolation or typing and 8% by virus contamination of negative samples or cross-contamination of virus-containing samples. Samples containing any poliovirus, regardless of the number or type, were identified with a sensitivity and specificity of 92% and 91%, respectively. For all national and regional laboratories, the goal of proficiency testing is a score of ≥80%. In the 1997 proficiency tests, each of the 30 provincial laboratories in China scored 100%. All regional reference laboratories scored 100% on the most recent panels designed to test the proficiency in distinguishing wild from vaccine-derived polioviruses.

Reported by: Global Program for Vaccines and Immunization, World Health Organization, Geneva, Switzerland. Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Polio Eradication Activity, National Immunization Program, CDC.

Editorial Note: Polio eradication depends on effective global surveillance to guide vaccination strategy, verify outcome, and certify success. Surveillance consists of detecting, reporting, and investigating all cases of AFP in patients aged <15 years or suspected polio cases in patients of any age, collecting stool specimens from each patient for testing in the laboratory, and reporting the virologic findings to national immunization managers. An essential component of surveillance is a global network of high-quality laboratories capable of detecting wild poliovirus. Building the network began in 1986 in the Americas (*4*)—the first region to declare its intention to eradicate polio—and has continued in other regions of WHO following the World Health Assembly resolution of 1988 (*1,5,6*).

Effective surveillance for polio begins in the field and requires early detection of AFP cases, collection of specimens within 2 weeks of onset of AFP, prompt shipment of specimens on ice to the laboratory, and prompt reporting of laboratory results. Maintaining an effective poliovirus surveillance system is a dynamic process, requiring regular review of training and resource needs for optimal performance. Organizations supporting continued development of the surveillance system include Rotary

Global Laboratory Network — Continued

International, the Japanese International Cooperation Agency, the U.S. Agency for International Development, and other partner organizations. The Polio Plus Partners Program of Rotary International, through the donations of individual clubs and districts to assist individual laboratories, also contributes support to polio surveillance.

The 1994–1996 proficiency test results are an indication of the range of capabilities of national laboratories and serve as a basis for further improvement, particularly by newer and less-experienced laboratories. Samples containing more than one poliovirus type or a poliovirus and nonpolio enterovirus mixture caused the greatest difficulty, skewing the scores downward. However, samples containing more than one poliovirus or a mixture of polioviruses and nonpolio enteroviruses may not be routinely encountered in poliovirus surveillance. Of the proficiency testing samples, 45% contained more than one virus; of stool specimens from AFP cases, 5%–20% can be expected to contain more than one virus, depending on the prevalence of virus in the community or the recent administration of trivalent oral poliovirus vaccine.

Proficiency testing samples with one or more polioviruses were identified as containing poliovirus with a sensitivity and specificity of 92% and 91%, respectively. In practice, the identification of poliovirus in a sample is sufficient cause to ship the isolate to a regional reference laboratory, where virus mixtures can be separated and characterized using additional tests.

WHO is committed to further enhancing laboratory proficiency through the introduction of a poliovirus-specific cell substrate, improvement of procedures, and continued training. The results of the 1997 network-wide process of laboratory accreditation will provide additional assessment of progress in national and regional poliovirus surveillance. The role of the laboratory network becomes increasingly important as progress is made toward polio eradication. The laboratory network in the Americas monitored the successive elimination of the eight distinct wild poliovirus genotypes indigenous to the Americas (*7*), which culminated in the reporting of the last case in 1991 (*8*). The polioviruses that had been indigenous to China were last detected in 1994 (*9*), and wild poliovirus type 2 is nearing extinction.

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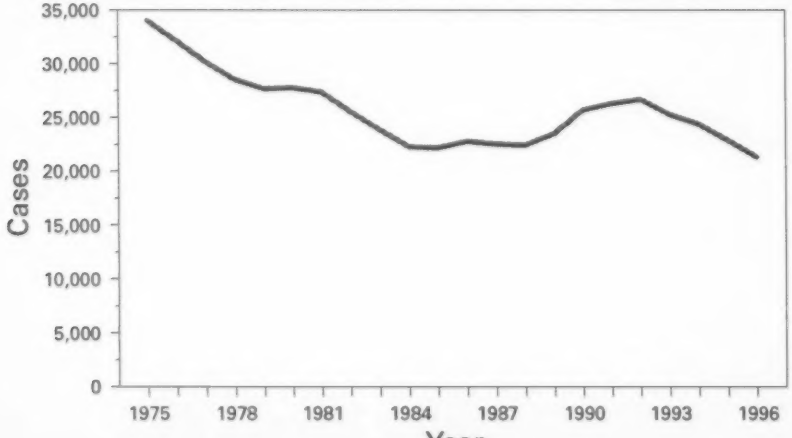
Tuberculosis Morbidity — United States, 1996

During 1996, a total of 21,337 cases of tuberculosis (TB) (8.0 cases per 100,000 population) were reported to CDC from the 50 states, the District of Columbia (DC), and New York City; this total represents a 6.7% decrease from 1995 (22,860 cases [8.7 per 100,000 population]) (*1*). This is the fourth consecutive year that the number of reported TB cases has decreased (Figure 1), resulting in the lowest number and rate of reported TB cases since national reporting began in 1953. This report summarizes TB surveillance data for 1996 and compares these data with selected data for previous years. The findings indicate a continuing decrease in the number of TB cases among U.S.-born persons and a leveling or slight decrease in the number of cases among persons born outside the United States and its territories (i.e., foreign-born).

During 1996, a total of 29 states reported fewer TB cases than in 1995, and 21 states and DC reported no change or more cases in 1996 than in 1995 (Table 1). In 1996, TB rates by state ranged from 0.7 per 100,000 population in Vermont to 16.9 in Hawaii. The rate in DC was highest of all reporting areas (25.6). Nineteen states met the interim target rate for 2000 of ≤3.5, compared with 16 in 1995 (Table 1) (*2*). Compared with 1995, the number of reported TB cases in 1996 decreased in each sex and age group and all racial/ethnic groups (Table 2). The number of U.S.-born case-patients decreased 9.7% (Table 2). Among U.S.-born case-patients, TB rates decreased from 6.2 in 1995 to 5.6 in 1996. The number of cases decreased in all age groups, with the largest decreases occurring among persons aged 0–4 years (14.5%) and 25–44 years (13.4%).

During 1996, TB cases reported among foreign-born persons accounted for 36.6% of those with information about country of origin, compared with 34.7% in 1995 (Figure 2). In 1996, the number of TB cases among foreign-born persons decreased

FIGURE 1. Number of reported tuberculosis cases — United States, 1975–1996



Tuberculosis — Continued

TABLE 1. Number of reported tuberculosis cases, percentage change in number of cases, and case rates*, by state and year — United States, 1995–1996

State	No. cases		% Change from 1995 to 1996	Case rate	
	1995	1996		1995	1996
Alabama	420	423	+ 0.7%	9.9	9.9
Alaska	81	96	+18.5%	13.4	15.8
Arizona	319	282	–11.6%	7.6	6.4
Arkansas	271	225	–17.0%	10.9	9.0
California	4,677	4,313	– 7.8%	14.8	13.5
Colorado	95	104	+ 9.5%	2.5	2.7
Connecticut	139	138	– 0.7%	4.2	4.2
Delaware	56	43	–23.2%	7.8	5.9
District of Columbia	102	139	+36.3%	18.4	25.6
Florida	1,556	1,417	– 8.9%	11.0	9.8
Georgia	746	790	+ 5.9%	10.4	10.7
Hawaii	193	200	+ 3.6%	16.3	16.9
Idaho	14	15	+ 7.1%	1.2	1.3
Illinois	1,024	1,060	+ 3.5%	8.7	8.9
Indiana	199	202	+ 1.5%	3.4	3.5
Iowa	72	70	– 2.8%	2.5	2.5
Kansas	89	74	–16.9%	3.5	2.9
Kentucky	327	259	–20.8%	8.5	6.7
Louisiana	476	420	–11.8%	11.0	9.7
Maine	28	21	–25.0%	2.3	1.7
Maryland	370	319	–13.8%	7.3	6.3
Massachusetts	330	262	–20.6%	5.4	4.3
Michigan	424	443	+ 4.5%	4.4	4.6
Minnesota	156	131	–16.0%	3.4	2.8
Mississippi	271	251	– 7.4%	10.0	9.2
Missouri	244	224	– 8.2%	4.6	4.2
Montana	21	19	– 9.5%	2.4	2.2
Nebraska	24	22	– 8.3%	1.5	1.3
Nevada	115	137	+19.1%	7.5	8.5
New Hampshire	23	21	– 8.7%	2.0	1.8
New Jersey	848	820	– 3.3%	10.7	10.3
New Mexico	85	89	+ 4.7%	5.0	5.2
New York	3,066	2,588	–15.6%	16.9	14.2
North Carolina	519	554	+ 6.7%	7.2	7.6
North Dakota	5	8	+60.0%	0.8	1.2
Ohio	280	301	+ 7.5%	2.5	2.7
Oklahoma	237	201	–15.2%	7.2	6.1
Oregon	156	190	+21.8%	5.0	5.9
Pennsylvania	674	583	–13.5%	5.6	4.8
Rhode Island	50	35	–30.0%	5.1	3.5
South Carolina	334	348	+ 4.2%	9.1	9.4
South Dakota	28	19	–32.1%	3.8	2.6
Tennessee	465	504	+ 8.4%	8.8	9.5
Texas	2,369	2,103	–11.2%	12.7	11.0
Utah	48	58	+20.8%	2.5	2.9
Vermont	4	4	—	0.7	0.7
Virginia	359	349	– 2.8%	5.4	5.2
Washington	278	285	+ 2.5%	5.1	5.2
West Virginia	71	57	–19.7%	3.9	3.1
Wisconsin	117	114	– 2.6%	2.3	2.2
Wyoming	5	7	+40.0%	1.0	1.5
Total	**22,860**	**21,337**	**– 6.7%**	**8.7**	**8.0**

*Per 100,000 population.

Tuberculosis — Continued

TABLE 2. Number of persons with reported cases of tuberculosis, percentage change in number of cases, and case rates*, by selected characteristics and year — United States, 1995–1996

Characteristic	No. reported cases		% Change from 1995 to 1996	Case rate	
	1995	1996		1995	1996
Sex†					
Male	14,494	13,560	– 6.4%	11.3	10.4
Female	8,348	7,765	– 7.0%	6.2	5.7
Age group (yrs)§					
0–14	1,558	1,372	–11.9%	2.7	2.4
15–24	1,703	1,656	– 2.8%	4.7	4.6
25–44	8,241	7,604	– 7.7%	9.9	9.1
45–64	5,998	5,588	– 6.6%	11.5	10.4
≥65	5,351	5,103	– 4.6%	16.0	15.1
Race/Ethnicity¶					
White, non-Hispanic	5,989	5,506	– 8.1%	3.1	2.8
Black, non-Hispanic	7,555	7,106	– 5.9%	23.9	22.3
Hispanic**	4,847	4,533	– 6.5%	18.0	16.0
Asian/ Pacific Islander	3,997	3,814	– 4.6%	45.9	41.6
American Indian/ Alaskan Native	319	284	–11.0%	16.5	14.5
Country of origin††					
United States	14,772	13,333	– 9.7%	6.2	5.5
Other	7,930	7,704	– 2.8%	33.9	31.3
Total	**22,860**	**21,337**	**– 6.7%**	**8.7**	**8.0**

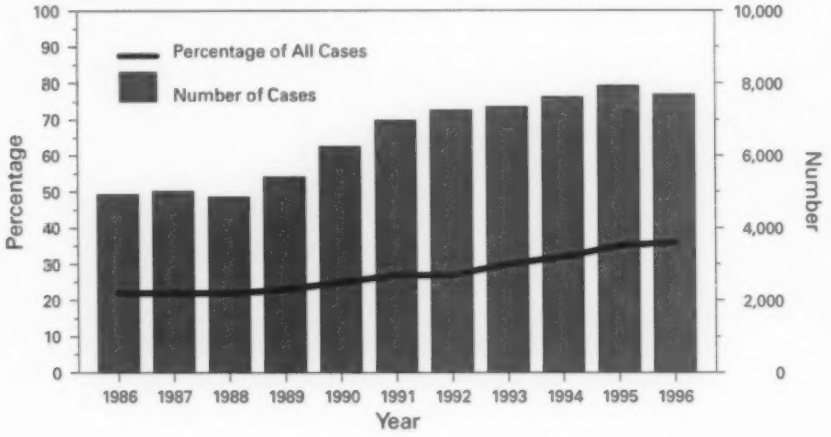
*Per 100,000 population.
†Excludes persons for whom sex was unknown (18 in 1995 and 12 in 1996).
§Excludes persons for whom age was unknown or missing (nine in 1995 and 14 in 1996).
¶Excludes persons for whom race/ethnicity was unknown (153 in 1995 and 94 in 1996).
**Persons of Hispanic ethnicity can be of any race.
††Excludes persons for whom country of origin was unknown (158 in 1995 and 300 in 1996).

2.9% (from 7930 in 1995 to 7704 in 1996) (Table 2), representing the first decreases among foreign-born persons since 1986 (the first year such data were collected). The TB rate among foreign-born persons also decreased in 1996 (31.3), compared with 1995 (33.9). In 1996, the country of origin was known for 7641 (99.2%) foreign-born case-patients; seven countries (Haiti, India, Mexico, Philippines, People's Republic of China, Republic of Korea, and Vietnam) accounted for 66.2% of cases. Of the 5225 foreign-born persons reported in 1996 whose records contained information about month and year of arrival in the United States, 1439 (27.5%) had TB diagnosed within 1 year and 1431 (27.4%), 1–5 years after entering the United States. In 1996, the number of reported cases among foreign-born persons decreased in all age groups except among persons aged 15–24 years (2.7% increase); the largest decrease occurred among persons aged 0–4 years (20.8%).

Information about the initial prescribed drug regimen was available for 99% of cases reported in 1995 and 1996. Compared with 1995, the number of cases for which the initial four-drug regimen was prescribed as recommended by the Advisory Coun-

Tuberculosis — Continued

FIGURE 2. Number and percentage of tuberculosis cases among foreign-born persons — United States, 1986–1996



cil for the Elimination of Tuberculosis, the American Thoracic Society, and CDC (isoniazid [INH], rifampin [RIF], pyrazinamide, and either ethambutol or streptomycin) (*3,4*) increased 4.1% (from 13,582 [63.3%] of 21,472 in 1995 to 13,679 [67.5%] of 20,277 in 1996). In 1995, human immunodeficiency virus (HIV)-antibody–test results were available for 3490 (42.3%) of 8241 persons aged 25–44 years, and in 1996 for 3866 (50.8%) of 7604. Fourteen states reported HIV-antibody–test results for ≥75% of cases in 1996, compared with nine states in 1995.

The proportion of TB cases for which drug-susceptibility results for *Mycobacterium tuberculosis* isolates were reported was 90.7% (15,639 of 17,234) in 1996, an increase from 87.4% (15,993 of 18,292) in 1995. In 1996, a total of 47 states reported drug-susceptibility results for isolates from ≥75% of cases; of these, 1225 (8.0%) of 15,282 were resistant to at least INH, compared with 1189 (8.2%) of 14,546 among the 42 states reporting results for ≥75% of cases in 1995; 234 (1.5%) of 15,263 were resistant to at least INH and RIF, compared with 268 (1.8%) of 14,520 in 1995. The 47 states reporting drug-susceptibility results accounted for 98% of all culture-positive cases reported in 1996.

Reported by: Div of Tuberculosis Elimination, National Center for HIV, STD, and TB Prevention, CDC.

Editorial Note: The continued decline in the number of TB cases reported annually in the United States since 1992 primarily reflects improvements in TB-prevention and TB-control programs in state and local health departments resulting from increased federal resources provided to the states beginning in the early 1990s (*1*). The increased funding enabled many TB-control programs to improve management of TB cases by ensuring that each patient completed an adequate course of therapy and by expanding the use of directly observed therapy (DOT) (*5–7*). Information about treat-

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ment outcome (e.g., completion of TB treatment and use of DOT) was collected for each reported TB case for the first time beginning in 1993. Analyses of available data about completion of TB treatment and use of DOT for TB cases reported in 1993 and 1994 indicated that treatment completion rates increased from 76% for 1993 to 78% for 1994, and the proportion receiving DOT increased from 35% for 1993 to 47% for 1994 (CDC, unpublished data, 1997). Complete data for 1995 and 1996 cases are not yet available.

Although the number and rate of reported TB cases in the United States continue to decline, TB incidence for 1996 (8.0) exceeded the national goal of TB elimination (an incidence of <1 case per 1 million population) by 2010, with an interim incidence target of 3.5 cases per 100,000 population by 2000 (*2*). TB rates remain higher for foreign-born persons and minority groups.

Sustained improvement of TB control and prevention in the United States and achievement of the 2010 national goal of TB elimination requires continued collaboration between federal agencies and state and local health departments. The highest priority of TB-prevention and TB-control programs must be to ensure that all persons with TB are promptly identified and treated with an adequate course of drug therapy (*8*). Future efforts must include intensified identification and treatment of persons with active TB and TB infection, especially foreign-born persons from areas with high TB rates that account for the greatest number of immigrants to the United States (*9*).

The occurrence of TB among foreign-born U.S. residents reflects the global nature of TB as a public health problem. TB-control activities aimed at reducing the incidence of TB cases in other parts of the world must be strengthened. Additional resources are needed for the successful implementation of DOT short course (DOTS) in those countries. DOTS is a strategy advocated by the Global Tuberculosis Program of the World Health Organization (WHO) and the International Union Against Tuberculosis and Lung Disease (IUATLD) to ensure detection of TB cases with appropriate diagnostic procedures, provision of an appropriately supervised course of TB therapy, establishment of a secure supply of essential anti-TB drugs, and establishment of a system of records and program assessment (*10*). CDC is collaborating with WHO, IUATLD, and the World Bank to implement and evaluate this strategy in anticipation of advances in the global effort to eliminate TB that will result in enhanced TB prevention and control in the United States.

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Tuberculosis — Continued

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As part of its commemoration of CDC's 50th anniversary, MMWR *is reprinting selected* MMWR *articles of historical importance to public health, accompanied by current editorial notes. Reprinted below is a report published November 5, 1982, which was the first in* MMWR *to describe diarrheal illness attributable to* Escherichia coli *serotype O157:H7 infections.*

Epidemiologic Notes and Reports

Isolation of *E. coli* O157:H7 from Sporadic Cases of Hemorrhagic Colitis — United States

Since the beginning of August 1982, stool isolates of *Escherichia coli* serotype O157:H7 have been identified at CDC from specimens obtained from four patients in two states. Three of four patients had an unusual bloody diarrheal illness; each illness began suddenly with severe crampy abdominal pain followed within 24 hours by watery diarrhea, which subsequently became markedly bloody. One patient underwent a laparotomy to rule out appendicitis. All patients recovered within 7 days without complications or specific therapy. In one instance, *E. coli* O157:H7 was isolated from the stool of a patient's spouse. This fourth patient had abdominal cramps and non-bloody diarrhea. Since early August, 25 additional sporadic cases of this unusual illness have been reported to CDC, but appropriately collected stool specimens were available in only two of these. *E. coli* O157:H7 was not isolated from either specimen. The four patients with sporadic cases in which *E. coli* was isolated from stools and 24 of the remaining 25 patients with sporadic cases had eaten hamburgers from a variety of sources (including homes and/or local or national-chain restaurants) within the week before they became ill.

Examination of stool samples from sporadic cases of this recently recognized diarrheal illness, currently designated "hemorrhagic colitis," began at CDC after *E. coli* O157:H7 was isolated from patients in two separate outbreaks of this illness earlier this year in Oregon and Michigan. Illness was associated with eating hamburgers at restaurants of one national chain.

Hemorrhagic colitis appears to be a distinct clinical entity, characterized by severe crampy abdominal pain, grossly bloody diarrhea, little or no fever, a characteristic barium-enema finding of marked edema involving the cecum, ascending and/or transverse colon, and the absence of usual pathogens in stool.

Reported by RR Uyeyama, MD, Good Samaritan Hospital, San Jose, SB Werner, MD, S Chin, MD, State Epidemiologist, California Dept of Health Svcs; SF Pearce, MD, CL Kollip, MD, Portland Adventist Medical Center, Portland, LP Williams, DVM, JA Googins, MD, State Epidemiologist, Oregon State Health Div; Enteric Diseases Br, Div of Bacterial Diseases, Center for Infectious Diseases, CDC.

E. coli *O157:H7 — Continued*

Editorial Note: The diagnoses of hemorrhagic colitis are based on the typical clinical presentation and isolation of *E. coli* O157:H7 from the stool specimens. Early stool collection (within 4 days after onset of illness and before any antibiotic exposure) is crucial for detecting the *E. coli*, so physicians encountering typical cases need to ensure that stool samples are obtained and a portion held frozen (preferably at –70 C [–94 F] or on dry ice) while their laboratories perform routine examinations for *Salmonella, Shigella, Campylobacter, Yersinia*, and parasites. If these test results are negative, arrangements can be made through the state epidemiologist and state laboratory director to look for *E. coli* O157:H7 in the frozen specimen. Those state laboratories that do not have the antisera to identify *E. coli* O157:H7 may wish to send either the whole frozen stool or 10 picks (if possible) of *E. coli* colonies to CDC. This strain of *E. coli* O157:H7 does not ferment sorbitol, and this biochemical property may facilitate screening for this serotype. Further studies are under way at CDC to better characterize the epidemiology of hemorrhagic colitis, the reservoir of *E. coli* O157:H7, and serologic methods to confirm infection.

Epidemiologic investigation of the outbreaks showed that one source of *E. coli* O157:H7 is hamburger. Other enteric diseases, such as salmonellosis, have been reported following consumption of hamburger (*1*). Careful handling and adequate cooking of raw meat products should minimize or eliminate the risk of contracting infectious diseases from this source.

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Editorial Note—1997:

A journey of a thousand miles must begin with a single step.
—Lao-Tzu, Chinese philosopher

This description of four persons with diarrheal illness attributable to *E. coli* O157:H7 was among the earliest published references to this pathogen and the first report of this problem to be published in *MMWR*. From this modest beginning, *E. coli* O157:H7, the most commonly identified member of a group of organisms that is now referred to as the Shiga toxin-producing *E. coli* (STEC), has become one of the best-known emerging pathogens and one that is considered prototypic for the current paradigm of foodborne diseases in the United States (*1*). Over its 15-year history, *E. coli* O157:H7 has evolved as a major problem for primary-care practitioners, pediatric nephrologists, infectious-disease physicians, public health authorities, and those in the child-care setting and the food industry. In the process, the public health imperative to address this problem has influenced the careers of many of CDC's Epidemic Intelligence Service officers. For example, during a 2-year training assignment to the Washington State Department of Health, this author devoted a substantial amount of time investigating outbreaks attributed to this organism and systematically interviewing the hundreds of persons in that state with sporadic cases of *E. coli* O157:H7 infection (*2*).

As all successful public health practitioners and clinicians quickly learn, there is no better way to develop a feel for a disease and its risk factors than by talking to patients with the illness. In reading the *MMWR* article of 1982, it is striking to discover how many of the now classic features of *E. coli* O157:H7 infection could be identified in

E. coli *O157:H7 — Continued*

those four initial patients—these features are typical of hemorrhagic colitis, including abdominal cramping and nonbloody diarrhea rapidly progressing to bloody diarrhea in the absence of prominent fever. In addition, the report notes the occurrence of nonbloody, culture-confirmed disease; the suggestion of person-to-person transmission (which was subsequently confirmed); the great potential for misdiagnosis and inappropriate clinical procedures (in this case laparotomy); and spontaneous recovery without specific therapy, obviating the need for antimicrobial agents (*3*). The report also highlights another critical issue—the failure to collect appropriate specimens to diagnose this and other enteric pathogens. Even today, with the increasingly high profile of this disease, clinicians often fail to consider the diagnosis of *E. coli* O157:H7 or to collect appropriate specimens, and laboratories often fail to use necessary screening techniques for its identification.

However, one element of this disease was not mentioned in the 1982 report. None of the four patients developed hemolytic uremic syndrome (HUS) nor was it mentioned as a potential complicating factor. HUS is now recognized to occur in 5%–10% of reported cases of *E. coli* O157:H7; it occurs most commonly in patients with this disease who are aged <5 years (*3*). Remarkably, the outbreaks in Oregon and Michigan early in 1982, which led to the initial identification of *E. coli* O157:H7, are among the only ones recognized in which none of the case-patients developed HUS, probably because few of the illnesses occurred in children (*4*). It was not until the following year that the association between *E. coli* O157:H7 and HUS was first reported (*5,6*). However, two outbreaks of HUS had occurred earlier in North America before this association was recognized, including one in 1980 outside of Toronto in association with apple juice (*7*) and one in 1982 in Sacramento (*8*). The history of this problem highlights the need for rapid reporting and thorough evaluation of clusters of unknown etiology. These two outbreaks probably were due to infections with *E. coli* O157:H7, because in North America, most cases of HUS—the most common cause of acute renal failure of childhood—are associated with this infection (*9*). The combination of the severity of the clinical syndrome, the frequency of severe complications, and the lack of specific therapeutic interventions account for the perception of *E. coli* O157:H7 as one of the most feared emerging pathogens.

The initial outbreaks of *E. coli* O157:H7 were associated with two outlets of the same fast-food chain, and illness was linked to undercooked hamburgers. The *MMWR* report mentioned that most of the persons with sporadic hemorrhagic colitis had eaten hamburgers from a variety of sources. Since this report, many other *E. coli* O157:H7 outbreaks, including a large outbreak in 1993 in the Pacific Northwest (*10*), have been linked to ground beef. Although cattle are known to be a major reservoir for this pathogen, the ecology of the organism in animals is poorly understood.

However, accumulating experience has established a diversity of sources for *E. coli* O157:H7, including apple juice and cider, raw vegetables such as lettuce, raw milk, and processed foods such as salami (*1*). Some recent outbreaks have been related to low-level contamination of widely dispersed products, which are more available as a result of advances in the food production and distribution industry. In such instances, outbreaks are marked by small numbers of cases occurring over wide geographic areas. These outbreaks are difficult to detect and investigate. Expanded use of subtyping methods, such as pulsed-field gel electrophoresis for seemingly sporadic cases of *E. coli* O157:H7, will increase the likelihood of detecting diffuse outbreaks (*11*). Al-

E. coli *O157:H7 — Continued*

though this will expand knowledge of this pathogen, investigation of such outbreaks is likely to further strain health department resources.

Despite the substantial gains in knowledge about *E. coli* O157:H7 since its recognition 15 years ago, many fundamental questions and concerns remain. For example, the reasons for the original emergence of this pathogen and for its geographic spread are not known. In recent years, the organism has become a global health problem; in 1996 alone, major outbreaks were reported in Germany and Scotland, and the largest recognized outbreak, affecting approximately 5000 persons, occurred in Japan (*12*). How frequent is this infection? In a recent study of 10 hospitals from all U.S. regions, *E. coli* O157:H7 was the second or third most commonly isolated bacterial enteric pathogen in four hospitals, and its overall isolation rate was more than one third of that for *Shigella* sp. (*13*). However, despite its frequency and the availability of inexpensive commercial tests for screening and identification, by the end of 1994 only approximately 50% of U.S. clinical laboratories were screening either all stools or bloody stools for *E. coli* O157:H7 (*14*). Because misdiagnosis can lead to unnecessary therapies and procedures and because person-to-person spread is not uncommon, stool specimens from all patients with a history of acute bloody diarrhea should be cultured for this pathogen (*13*).

Other issues that need to be addressed include 1) determining the public health importance in North America of other STEC—STEC have been recognized as the cause of two outbreaks in the United States and appear to be more common than *E. coli* O157:H7 in other parts of the world, such as Argentina and Australia; 2) deciding whether laboratory screening approaches in the United States should be changed to identify other STEC; 3) determining why some persons develop HUS after STEC infection and others do not, and whether there is any secondary prevention for this complication; 4) identifying the best primary prevention strategy; and 5) estimating the extent to which measures such as Hazard Analysis Control Critical Point work to reduce the threat of *E. coli* O157:H7 to the food supply, and what other measures might be necessary. Efforts to address these and other questions are included in the President's Food Safety Initiative, which was issued in May 1997 (*15*). Such efforts are critical to enhance understanding of *E. coli* O157:H7, other known foodborne pathogens, and as yet undiscovered pathogens that will constitute the foodborne challenges of the future.

1997 Editorial Note by Stephen M Ostroff, MD, Associate Director for Epidemiologic Science, National Center for Infectious Diseases, CDC.

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E. coli *O157:H7 — Continued*

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Notice to Readers

Final 1996 Reports of Notifiable Diseases

The notifiable diseases tables on pages 714–719 summarize final data for 1996. These data, final as of July 25, 1997, will be published in more detail in the *Summary of Notifiable Diseases, United States, 1996* (*1*).

Because no cases of anthrax were reported in the United States during 1996, this nationally notifiable disease does not appear in these tables. Population estimates for the states are from the July 1, 1996, estimates by the U.S. Bureau of the Census, Population Division, Population Branch, press release CB97-39. Population estimates for territories are from the 1990 census, U.S. Bureau of the Census, press releases CB91-142, 242, 243, 263, and 276.

Reference

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Notice to Readers

Epidemiology in Action Course

CDC and Emory University will cosponsor an applied epidemiology course designed for practicing state and local health department professionals. This course, "Epidemiology in Action," will be held at CDC during November 10–21, 1997. The course emphasizes the practical application of epidemiology to public health problems and will consist of lectures, workshops, classroom exercises (including actual epidemiologic problems), roundtable discussions, and a telephone survey. Topics covered include descriptive epidemiology and biostatistics, analytic epidemiology, epidemic investigations, public health surveillance, surveys and sampling, computers and Epi Info software training, and discussions of selected prevalent diseases. There is a tuition charge.

Deadline for application is September 15, 1997. Additional information and applications are available from Department PSB, Rollins School of Public Health, Emory University, 7th floor, 1518 Clifton Road, N.E., Atlanta GA 30322; telephone (404) 727-3485; fax (404) 727-4590; email ogostan@sph.emory.edu.

Notice to Readers

Epidemiology in Action: Intermediate Methods Course

CDC and Emory University will cosponsor a course, "Epidemiology in Action: Intermediate Methods," during November 7–11, 1997, at CDC. The course will review the fundamentals of descriptive epidemiology and biostatistics, analytic epidemiology, and Epi Info software, but will focus on mid-level epidemiologic methods directed at strengthening participants' quantitative skills, with an emphasis on up-to-date data analysis. Topics include advanced measures of association, normal and binomial distributions, logistical regression, field investigations, and summary of statistical methods. Prerequisite is an introductory course in epidemiology, such as "Epidemiology in Action," or any other introductory class. There is a tuition charge.

Deadline for application is August 31, 1997. Additional information and applications are available from Department PSB, Rollins School of Public Health, Emory University, 7th floor, 1518 Clifton Road, N.E., Atlanta GA 30322; telephone (404) 727-3485; fax (404) 727-4590; email ogostan@sph.emory.edu.

Erratum: Vol. 46, No. 22

In the article "Suicide—Washington, 1980–1995," an error appears on page 503 in Table 1. The p value for the "Total" line for persons aged 15–24 years is 0.02 but should have been 0.2.

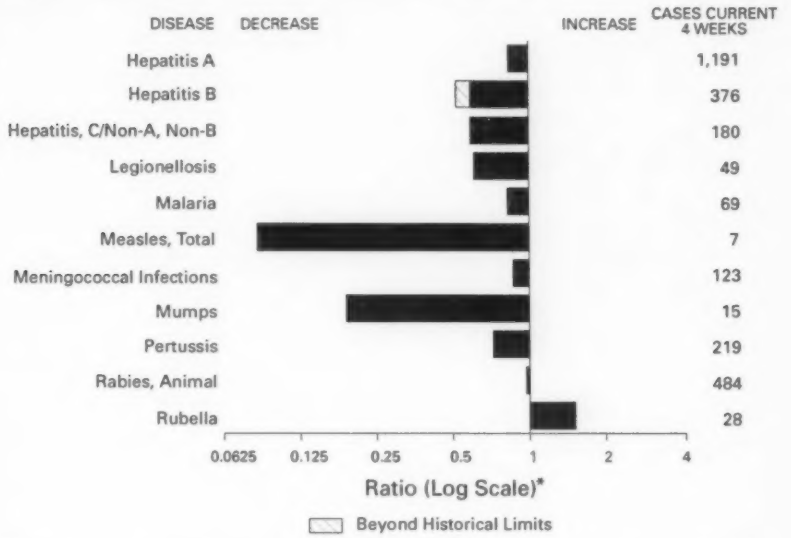
Erratum: Vol. 46, No. 14

In the article "Human Monkeypox—Kasai Oriental, Zaire, 1996–1997," on page 307, in the last line of the first full paragraph, the age group is incorrect. The end of the sentence should read "... and the higher proportion of case-patients aged *>15* years."

Erratum: Vol. 46, No. RR-7

The *MMWR Recommendations and Reports*, "Pertussis Vaccination: Use of Acellular Pertussis Vaccines Among Infants and Young Children—Recommendations of the Advisory Committee on Immunization Practices (ACIP)," contained an error. On page 5, Table 1 provides incorrect information about the antigenic content of the vaccine manufactured by Connaught (US)/BIKEN (Tripedia®). Each dose of Tripedia® contains 23.4 µg of filamentous hemagglutinin (FHA) in addition to 23.4 µg of inactivated pertussis toxin (PT). Tripedia® contains no pertactin (Pn).

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending July 26, 1997, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending July 26, 1997 (30th Week)

	Cum. 1997		Cum. 1997
Anthrax	-	Plague	1
Brucellosis	32	Poliomyelitis, paralytic	-
Cholera	3	Psittacosis	21
Congenital rubella syndrome	2	Rabies, human	2
Cryptosporidiosis*	721	Rocky Mountain spotted fever (RMSF)	153
Diphtheria	5	Streptococcal disease, invasive Group A	934
Encephalitis: California*	5	Streptococcal toxic-shock syndrome*	23
eastern equine*	-	Syphilis, congenital§	189
St. Louis*	1	Tetanus	25
western equine*	1	Toxic-shock syndrome	69
Hansen Disease	53	Trichinosis	3
Hantavirus pulmonary syndrome*†	10	Typhoid fever	161
Hemolytic uremic syndrome, post-diarrheal*	23	Yellow fever	-
HIV infection, pediatric*§	131		

-:no reported cases
*Not notifiable in all states.
†Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update June 24, 1997.
¶Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 1997, and July 27, 1996 (30th Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996
UNITED STATES	30,463	37,634	234,600	233,270	989	544	147,787	171,688	1,725	2,044
NEW ENGLAND	1,277	1,561	9,571	9,718	84	39	3,227	3,578	40	58
Maine	28	29	568	512	6	-	33	27	-	-
N.H.	17	50	432	410	6	3	61	84	8	5
Vt.	23	14	223	247	4	1	30	34	1	16
Mass.	467	739	4,086	3,761	53	35	1,287	1,210	24	32
R.I.	85	94	1,091	1,158	2	-	250	292	7	5
Conn.	657	635	3,171	3,630	11	-	1,566	1,931	-	-
MID. ATLANTIC	9,745	9,896	32,405	37,777	52	14	19,232	23,592	196	174
Upstate N.Y.	1,645	1,271	N	N	34	4	3,005	4,167	153	139
N.Y. City	4,978	5,322	16,336	20,403	8	-	7,287	9,200	-	3
N.J.	1,973	1,939	5,255	7,111	10	8	3,889	4,495	-	-
Pa.	1,149	1,364	10,814	10,263	N	2	5,051	5,730	43	32
E.N. CENTRAL	2,041	3,127	33,723	49,501	201	89	20,903	32,602	311	298
Ohio	396	662	6,875	11,743	45	19	4,671	8,336	11	18
Ind.	361	390	5,046	5,445	34	10	3,371	3,561	9	7
Ill.	765	1,396	6,188	13,945	40	-	3,020	9,414	40	58
Mich.	386	521	10,649	12,287	82	49	7,734	8,541	251	215
Wis.	133	158	4,965	6,081	N	11	2,107	2,750	-	-
W.N. CENTRAL	565	844	13,343	17,843	197	137	6,431	8,382	97	56
Minn.	101	168	U	3,128	99	96	U	1,381	3	1
Iowa	70	63	2,571	2,321	28	9	704	604	20	26
Mo.	237	398	6,488	7,412	27	22	4,359	4,842	63	14
N. Dak.	7	11	473	548	8	5	35	15	2	-
S. Dak.	4	8	720	732	11	-	78	103	-	-
Nebr.	61	55	1,041	1,113	15	-	304	241	2	5
Kans.	85	141	2,050	2,589	9	5	861	1,196	7	10
S. ATLANTIC	7,504	9,378	52,099	29,195	107	47	49,378	54,503	175	103
Del.	144	189	1,276	1,148	3	3	669	816	-	-
Md.	950	1,133	4,005	U	11	3	7,472	5,647	10	2
D.C.	538	617	N	N	-	-	1,887	2,566	-	-
Va.	651	580	6,647	6,241	N	18	4,570	5,431	18	8
W. Va.	57	73	1,675	1,131	N	-	535	385	12	7
N.C.	428	536	10,663	U	31	18	10,252	10,819	33	30
S.C.	410	476	7,119	U	2	2	6,387	6,309	27	16
Ga.	965	1,410	7,271	7,122	26	-	7,988	12,288	U	-
Fla.	3,361	4,364	13,443	13,553	33	3	9,618	10,242	75	40
E.S. CENTRAL	1,022	1,282	18,763	17,210	56	26	18,630	18,214	212	369
Ky.	177	208	3,760	3,867	18	-	2,383	2,325	10	21
Tenn.	418	474	7,360	7,517	29	26	6,112	6,478	146	283
Ala.	237	364	4,652	4,680	6	-	6,577	7,490	6	2
Miss.	190	236	2,991	1,146	3	-	3,558	1,921	50	63
W.S. CENTRAL	3,187	3,916	29,648	15,219	28	5	18,874	12,921	199	205
Ark.	120	169	735	1,023	4	1	1,568	2,418	-	4
La.	545	889	5,106	3,891	4	3	4,782	4,166	121	117
Okla.	166	166	4,234	4,341	2	1	2,657	2,696	5	1
Tex.	2,356	2,692	19,573	5,964	18	-	9,867	3,641	73	83
MOUNTAIN	881	1,177	13,183	14,338	117	71	4,128	4,518	228	355
Mont.	22	22	498	720	10	-	20	15	12	10
Idaho	28	25	806	882	15	8	62	60	32	88
Wyo.	13	3	309	368	5	-	28	20	97	112
Colo.	210	333	1,896	1,129	54	39	1,209	1,049	24	33
N. Mex.	79	111	1,949	2,368	5	4	671	483	32	42
Ariz.	227	339	5,427	6,340	N	14	1,607	2,179	23	40
Utah	68	106	935	825	25	-	137	161	3	13
Nev.	234	238	1,363	1,706	3	6	394	551	5	17
PACIFIC	4,241	6,452	31,865	42,469	147	113	6,984	13,378	267	426
Wash.	380	444	5,162	5,709	27	22	1,096	1,239	17	35
Oreg.	162	293	2,312	3,154	46	54	358	459	4	6
Calif.	3,643	5,579	22,672	31,962	67	31	5,042	11,152	160	261
Alaska	22	14	799	629	7	1	221	252	-	2
Hawaii	34	122	920	1,015	N	5	267	276	86	122
Guam	2	4	31	234	N	-	3	40	-	6
P.R.	1,021	1,047	U	U	25	U	367	365	84	105
V.I.	52	14	N	N	N	U	-	-	-	-
Amer. Samoa	-	-	-	-	N	U	-	-	-	-
C.N.M.I.	1	-	N	N	N	U	16	11	2	-

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update June 24, 1997.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 1997, and July 27, 1996 (30th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997
UNITED STATES	465	448	2,549	5,261	814	771	4,472	6,570	9,327	10,726	4,146
NEW ENGLAND	33	22	517	1,333	38	31	92	97	240	244	614
Maine	1	1	7	11	1	6	-	-	11	16	127
N.H.	3	-	7	18	1	1	-	1	9	8	23
Vt.	6	3	3	10	2	2	-	-	3	1	90
Mass.	9	12	100	64	15	11	44	42	142	108	132
R.I.	5	6	123	183	5	3	2	1	17	24	11
Conn.	9	N	277	1,047	14	8	46	53	58	87	231
MID. ATLANTIC	82	103	1,511	3,216	206	240	218	292	1,741	1,895	870
Upstate N.Y.	20	28	456	1,469	37	46	19	45	226	213	646
N.Y. City	3	8	20	193	112	136	46	91	906	1,011	-
N.J.	12	9	418	723	43	42	88	100	354	402	95
Pa.	47	58	617	831	14	16	65	56	255	269	129
E.N. CENTRAL	147	152	42	235	76	97	367	1,077	917	1,126	86
Ohio	73	51	27	13	12	8	111	410	176	165	61
Ind.	27	35	13	13	7	7	85	139	79	105	7
Ill.	5	20	2	7	27	49	38	299	439	615	6
Mich.	36	28	-	-	24	21	72	109	157	184	11
Wis.	6	18	U	202	6	12	61	120	66	57	1
W.N. CENTRAL	42	23	36	76	30	20	86	221	294	281	275
Minn.	1	2	23	13	10	5	U	26	78	66	28
Iowa	12	3	3	12	9	2	6	15	34	39	96
Mo.	11	5	7	29	6	8	56	157	122	114	11
N. Dak.	2	-	-	-	2	-	-	-	6	3	39
S. Dak.	2	2	-	-	-	-	-	-	7	14	40
Nebr.	10	9	2	1	1	2	3	8	12	13	1
Kans.	4	2	1	21	2	3	21	15	35	32	60
S. ATLANTIC	70	61	299	247	173	119	1,876	2,202	1,856	1,958	1,762
Del.	6	8	27	100	2	2	15	23	11	27	40
Md.	17	7	207	80	50	31	520	387	178	167	323
D.C.	3	6	7	1	9	7	50	87	58	80	3
Va.	12	12	16	19	39	21	148	252	165	178	349
W. Va.	N	N	1	7	-	2	3	2	30	33	51
N.C.	8	6	20	31	8	11	420	605	227	269	533
S.C.	3	4	1	3	10	8	222	237	193	203	99
Ga.	-	2	1	1	16	14	317	382	345	382	184
Fla.	21	16	19	5	39	23	181	227	649	619	180
E.S. CENTRAL	30	26	40	46	16	19	1,007	1,501	660	826	147
Ky.	4	2	4	15	4	4	87	79	107	143	19
Tenn.	20	12	21	15	4	8	449	499	228	287	85
Ala.	2	2	4	3	5	3	267	316	231	255	43
Miss.	4	10	11	13	3	4	204	607	94	141	-
W.S. CENTRAL	8	4	26	56	7	16	617	726	1,240	1,299	173
Ark.	-	1	7	19	2	-	67	158	118	116	27
La.	2	-	2	1	5	2	219	316	-	7	2
Okla.	3	3	5	3	-	-	70	114	107	100	67
Tex.	3	-	12	33	-	14	261	138	1,015	1,076	77
MOUNTAIN	26	26	9	4	46	31	87	87	296	355	80
Mont.	1	1	-	-	2	3	-	-	7	14	22
Idaho	2	-	2	-	-	-	-	2	8	5	-
Wyo.	1	3	2	3	2	3	-	2	2	3	19
Colo.	8	7	3	-	23	14	4	24	57	49	-
N. Mex.	1	1	-	-	6	1	8	4	16	56	7
Ariz.	7	7	1	-	7	4	65	46	147	131	30
Utah	5	2	-	1	3	4	3	2	13	34	-
Nev.	1	5	1	-	3	2	7	7	46	63	2
PACIFIC	27	31	69	48	222	198	122	367	2,083	2,742	139
Wash.	6	3	2	4	9	11	7	7	128	150	-
Oreg.	-	-	10	12	11	14	5	4	95	100	5
Calif.	20	26	57	31	197	166	108	354	1,716	2,336	115
Alaska	-	1	-	-	3	2	1	-	48	50	19
Hawaii	1	1	-	1	2	5	1	2	96	106	-
Guam	-	1	-	-	-	-	-	3	5	55	-
P.R.	-	-	-	-	3	1	145	135	129	105	37
V.I.	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	9	1	2	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 26, 1997, and July 27, 1996 (30th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	1997	Cum. 1997	1997	Cum. 1997	Cum. 1997	Cum. 1996
UNITED STATES	654	682	15,037	15,657	4,783	5,504	-	51	1	29	80	316
NEW ENGLAND	36	21	375	184	89	123	-	9	-	3	12	11
Maine	3	-	45	12	6	2	-	-	-	-	-	-
N.H.	5	10	21	8	6	8	-	1	-	-	1	-
Vt.	3	-	7	4	5	10	-	-	-	-	-	1
Mass.	22	10	139	94	34	40	-	8	-	2	10	9
R.I.	2	1	88	8	10	6	-	-	-	-	-	-
Conn.	1	-	75	58	28	57	-	-	-	1	1	1
MID. ATLANTIC	73	141	1,140	1,052	702	871	-	12	-	5	17	29
Upstate N.Y.	14	35	163	233	152	207	-	2	-	3	5	6
N.Y. City	20	36	432	328	245	310	-	4	-	1	5	10
N.J.	29	37	184	220	136	175	-	1	-	-	1	2
Pa.	10	33	361	271	169	179	-	5	-	1	6	11
E.N. CENTRAL	108	118	1,494	1,421	509	637	-	5	-	3	8	16
Ohio	62	66	210	521	50	79	-	-	-	-	-	2
Ind.	11	7	180	180	61	83	-	-	-	-	-	-
Ill.	24	32	317	354	120	190	-	5	-	1	6	3
Mich.	10	8	701	246	261	227	-	-	-	2	2	2
Wis.	1	5	86	120	17	58	-	-	-	-	-	9
W.N. CENTRAL	33	25	1,193	1,237	303	281	-	9	1	3	12	17
Minn.	23	13	110	69	23	31	-	-	1	3	3	15
Iowa	3	3	212	218	30	37	-	-	-	-	-	-
Mo.	3	6	619	636	219	169	-	1	-	-	1	1
N. Dak.	-	-	10	28	2	-	-	-	-	-	-	-
S. Dak.	2	1	14	39	-	2	-	8	-	-	8	-
Nebr.	1	1	56	86	9	20	-	-	-	-	-	-
Kans.	1	1	172	161	20	22	-	-	-	-	-	1
S. ATLANTIC	117	126	969	617	703	735	-	2	-	7	9	6
Del.	-	2	19	8	4	6	-	-	-	-	-	1
Md.	46	41	150	112	107	95	-	-	-	2	2	1
D.C.	2	5	15	19	24	26	-	-	-	1	1	-
Va.	7	6	118	89	77	87	-	-	-	1	1	2
W. Va.	3	6	6	12	9	14	-	-	-	-	-	-
N.C.	17	20	116	80	134	213	-	-	-	1	1	-
S.C.	4	4	68	31	62	48	-	-	-	-	-	-
Ga.	22	30	196	48	64	8	-	-	-	1	1	1
Fla.	16	12	281	218	222	238	-	2	-	1	3	1
E.S. CENTRAL	35	20	373	863	395	476	-	-	-	-	-	-
Ky.	4	5	47	22	25	43	-	-	-	-	-	-
Tenn.	23	8	237	583	261	266	-	-	-	-	-	-
Ala.	8	6	54	118	41	40	-	-	-	-	-	-
Miss.	-	1	35	140	68	127	U	-	U	-	-	-
W.S. CENTRAL	35	29	2,968	3,063	564	673	-	3	-	1	4	16
Ark.	1	-	150	277	33	50	-	-	-	-	-	-
La.	7	3	119	90	83	66	-	-	-	-	-	-
Okla.	22	23	958	1,290	24	24	-	-	-	-	-	-
Tex.	5	3	1,741	1,406	424	533	-	3	-	1	4	16
MOUNTAIN	66	33	2,375	2,552	516	656	-	5	-	-	5	88
Mont.	-	-	54	76	6	7	-	-	-	-	-	-
Idaho	1	1	81	144	16	65	-	-	-	-	-	1
Wyo.	2	-	20	25	21	25	-	-	-	-	-	-
Colo.	9	7	260	243	101	70	-	-	-	-	-	7
N. Mex.	8	8	196	269	175	225	-	-	-	-	-	8
Ariz.	27	12	1,248	980	117	153	-	5	-	-	5	8
Utah	3	5	370	578	57	63	U	-	U	-	-	59
Nev.	16	-	146	237	23	48	U	-	U	-	-	5
PACIFIC	151	169	4,150	4,668	1,002	1,052	-	6	-	7	13	133
Wash.	2	2	305	319	47	57	-	-	-	-	-	37
Oreg.	23	22	218	586	64	66	-	-	-	-	-	7
Calif.	117	139	3,527	3,680	869	915	-	3	-	7	10	24
Alaska	3	4	24	30	14	6	-	-	-	-	-	63
Hawaii	6	2	76	53	8	8	-	3	-	-	3	2
Guam	-	-	-	6	1	-	U	-	U	-	-	-
P.R.	-	1	189	119	840	560	-	-	-	-	-	2
V.I.	-	-	-	26	-	25	U	-	U	-	-	-
Amer. Samoa	-	-	-	-	-	-	U	-	U	-	-	-
C.N.M.I.	5	10	1	1	26	5	U	1	U	-	1	-

N: Not notifiable U: Unavailable -: no reported cases

*Of 143 cases among children aged <5 years, serotype was reported for 78 and of those, 31 were type b.

†For imported measles, cases include only those resulting from importation from other countries.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 26, 1997, and July 27, 1996 (30th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996
UNITED STATES	2,114	2,084	3	341	412	45	2,770	2,262	1	97	199
NEW ENGLAND	134	89	-	7	1	1	555	479	-	-	24
Maine	15	10	-	-	-	-	6	18	-	-	-
N.H.	13	3	-	-	-	-	66	40	-	-	-
Vt.	2	3	-	-	-	-	178	13	-	-	2
Mass.	68	33	-	2	1	1	282	403	-	-	20
R.I.	11	10	-	4	-	-	12	-	-	-	-
Conn.	25	30	-	1	-	-	11	5	-	-	2
MID. ATLANTIC	189	229	1	31	56	-	179	145	-	3	8
Upstate N.Y.	50	57	-	6	17	-	56	71	-	1	4
N.Y. City	34	35	-	-	13	-	40	22	-	2	2
N.J.	42	49	-	-	2	-	5	7	-	-	2
Pa.	63	88	1	25	24	-	78	45	-	-	-
E.N. CENTRAL	302	300	2	40	88	9	211	290	-	4	3
Ohio	117	108	-	18	28	3	88	93	-	-	-
Ind.	34	44	2	6	5	2	35	19	-	-	-
Ill.	91	84	-	7	17	4	34	64	-	1	1
Mich.	36	31	-	9	37	-	31	26	-	-	2
Wis.	24	33	-	-	1	-	23	88	-	3	-
W.N. CENTRAL	159	166	-	13	8	14	179	85	-	-	-
Minn.	24	22	-	5	3	11	119	55	-	-	-
Iowa	37	35	-	6	-	1	19	3	-	-	-
Mo.	74	62	-	-	2	2	27	15	-	-	-
N. Dak.	1	3	-	-	2	-	2	1	-	-	-
S. Dak.	4	9	-	-	-	-	3	2	-	-	-
Nebr.	5	15	-	2	-	-	4	3	-	-	-
Kans.	14	20	-	-	1	-	5	6	-	-	-
S. ATLANTIC	383	323	-	48	60	9	280	222	1	61	89
Del.	5	2	-	-	-	-	-	14	-	-	-
Md.	35	36	-	4	20	-	82	78	-	-	-
D.C.	1	4	-	-	-	-	3	-	-	-	1
Va.	35	35	-	7	8	-	32	26	-	1	2
W. Va.	14	13	-	-	-	-	5	2	-	-	-
N.C.	72	55	-	7	11	7	80	34	1	50	75
S.C.	44	41	-	10	5	-	11	17	-	9	1
Ga.	73	96	-	5	2	-	9	13	-	-	-
Fla.	104	41	-	15	14	2	58	38	-	1	10
E.S. CENTRAL	163	144	-	16	16	1	63	158	-	-	2
Ky.	37	20	-	3	-	-	15	129	-	-	-
Tenn.	64	44	-	3	1	1	25	15	-	-	-
Ala.	46	44	-	6	3	-	15	8	-	-	2
Miss.	16	36	U	4	12	U	8	6	U	-	N
W.S. CENTRAL	205	231	-	34	30	3	70	74	-	4	7
Ark.	25	27	-	-	1	-	12	2	-	-	-
La.	42	44	-	11	11	-	12	6	-	-	1
Okla.	24	23	-	-	-	2	14	7	-	-	-
Tex.	114	137	-	23	18	1	32	59	-	4	6
MOUNTAIN	121	123	-	45	18	6	767	222	-	5	6
Mont.	8	6	-	-	-	-	10	12	-	-	-
Idaho	8	19	-	2	-	3	520	65	-	1	2
Wyo.	1	3	-	1	-	-	5	2	-	-	-
Colo.	34	19	-	3	3	3	164	59	-	-	2
N. Mex.	20	21	N	N	N	-	38	34	-	-	-
Ariz.	33	30	-	31	1	-	19	12	-	4	1
Utah	11	12	U	6	3	U	9	10	U	-	-
Nev.	6	13	U	2	11	U	2	28	U	-	1
PACIFIC	458	479	-	107	135	2	466	587	-	20	60
Wash.	56	63	-	13	18	2	212	214	-	5	12
Oreg.	93	82	N	N	N	-	18	34	-	-	1
Calif.	306	326	-	82	97	-	227	324	-	8	44
Alaska	1	5	-	2	2	-	2	1	-	-	-
Hawaii	2	3	-	10	18	-	7	14	-	7	3
Guam	-	4	U	1	4	U	-	-	U	-	-
P.R.	9	10	-	5	1	-	-	2	-	-	-
V.I.	-	-	U	-	1	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	4	-	U	-	-	U	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE IV. Deaths in 122 U.S. cities,* week ending July 26, 1997 (30th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	489	346	85	35	17	6	24
Boston, Mass.	138	91	25	12	8	2	2
Bridgeport, Conn.	30	21	4	3	1	1	5
Cambridge, Mass.	16	10	3	3	-	-	1
Fall River, Mass.	31	27	2	2	-	-	-
Hartford, Conn.	U	U	U	U	U	U	U
Lowell, Mass.	31	28	3	-	-	-	3
Lynn, Mass.	7	6	1	-	-	-	-
New Bedford, Mass.	28	21	3	1	3	-	-
New Haven, Conn.	42	23	11	5	2	1	4
Providence, R.I.	61	44	13	3	-	1	2
Somerville, Mass.	4	1	2	1	-	-	-
Springfield, Mass.	34	26	8	-	-	-	3
Waterbury, Conn.	21	14	4	2	1	-	1
Worcester, Mass.	46	34	6	3	2	1	3
MID. ATLANTIC	2,001	1,345	396	176	50	34	98
Albany, N.Y.	48	33	8	2	3	2	3
Allentown, Pa.	22	17	3	2	-	-	-
Buffalo, N.Y.	U	U	U	U	U	U	U
Camden, N.J.	34	24	4	3	2	1	2
Elizabeth, N.J.	18	14	1	1	1	-	-
Erie, Pa.	49	36	9	3	1	-	3
Jersey City, N.J.	42	20	16	4	1	1	1
New York City, N.Y.	1,019	683	201	95	22	18	39
Newark, N.J.	42	16	12	9	2	3	1
Paterson, N.J.	16	9	4	3	-	-	-
Philadelphia, Pa.	300	196	59	29	12	4	21
Pittsburgh, Pa.§	44	28	8	5	2	1	1
Reading, Pa.	6	5	1	-	-	-	1
Rochester, N.Y.	148	105	33	8	1	1	11
Schenectady, N.Y.	24	14	8	2	-	-	-
Scranton, Pa.	35	28	5	2	-	-	2
Syracuse, N.Y.	82	66	11	2	2	1	7
Trenton, N.J.	34	22	7	4	-	1	3
Utica, N.Y.	17	12	4	1	-	-	-
Yonkers, N.Y.	21	17	2	1	1	-	3
E.N. CENTRAL	1,898	1,273	384	162	42	35	98
Akron, Ohio	36	27	4	3	1	1	-
Canton, Ohio	26	21	5	-	-	-	4
Chicago, Ill.	383	230	82	49	12	8	24
Cincinnati, Ohio	85	58	16	5	1	5	7
Cleveland, Ohio	149	97	28	14	5	5	1
Columbus, Ohio	223	160	46	8	5	4	14
Dayton, Ohio	127	92	23	10	1	1	3
Detroit, Mich.	206	114	57	26	4	5	2
Evansville, Ind.	24	22	1	-	-	1	1
Fort Wayne, Ind.	58	42	10	6	-	-	5
Gary, Ind.	12	5	4	2	1	-	-
Grand Rapids, Mich.	53	43	5	4	1	-	2
Indianapolis, Ind.	193	125	40	17	7	4	20
Lansing, Mich.	45	33	11	1	-	-	3
Milwaukee, Wis.	102	77	15	8	2	-	5
Peoria, Ill.	31	18	11	1	1	-	3
Rockford, Ill.	43	28	11	3	1	-	1
South Bend, Ind.	52	43	6	2	-	1	2
Toledo, Ohio	U	U	U	U	U	U	U
Youngstown, Ohio	50	38	9	3	-	-	1
W.N. CENTRAL	916	677	157	50	11	13	71
Des Moines, Iowa	183	132	37	7	4	2	19
Duluth, Minn.	30	27	3	-	-	-	1
Kansas City, Kans.	29	20	8	-	1	-	-
Kansas City, Mo.	114	75	22	10	-	1	8
Lincoln, Nebr.	39	34	2	3	-	-	4
Minneapolis, Minn.	206	156	32	12	2	3	16
Omaha, Nebr.	89	68	14	3	2	2	10
St. Louis, Mo.	107	77	22	5	1	2	9
St. Paul, Minn.	48	38	7	1	1	1	3
Wichita, Kans.	71	50	10	9	-	2	1
S. ATLANTIC	1,168	738	214	146	46	24	65
Atlanta, Ga.	184	112	30	28	8	6	3
Baltimore, Md.	236	124	56	41	10	5	21
Charlotte, N.C.	95	61	15	10	6	3	9
Jacksonville, Fla.	113	83	18	8	2	2	-
Miami, Fla.	U	U	U	U	U	U	U
Norfolk, Va.	57	38	10	5	3	1	5
Richmond, Va.	71	44	17	7	2	1	4
Savannah, Ga.	50	37	8	4	1	-	4
St. Petersburg, Fla.	77	55	13	7	1	1	4
Tampa, Fla.	149	104	19	17	7	2	12
Washington, D.C.	114	59	27	19	8	3	3
Wilmington, Del.	22	21	1	-	-	-	-
E.S. CENTRAL	871	588	166	69	34	23	54
Birmingham, Ala.	169	122	29	9	5	3	13
Chattanooga, Tenn.	85	66	10	4	4	1	7
Knoxville, Tenn.	89	64	19	2	2	2	11
Lexington, Ky.	69	46	14	6	1	2	9
Memphis, Tenn.	190	122	36	18	9	5	11
Mobile, Ala.	88	61	13	5	4	5	1
Montgomery, Ala.	44	32	9	1	2	-	-
Nashville, Tenn.	137	75	36	14	7	5	2
W.S. CENTRAL	1,558	998	333	136	47	44	79
Austin, Tex.	57	36	13	7	1	-	3
Baton Rouge, La.	53	32	15	1	2	3	1
Corpus Christi, Tex.	57	41	12	1	2	1	5
Dallas, Tex.	185	119	37	15	8	6	6
El Paso, Tex.	81	62	9	4	4	2	-
Ft. Worth, Tex.	122	83	20	10	4	5	3
Houston, Tex.	387	218	96	51	14	8	24
Little Rock, Ark.	69	47	12	6	2	2	5
New Orleans, La.	107	57	25	15	4	6	-
San Antonio, Tex.	230	157	51	12	3	7	17
Shreveport, La.	81	54	20	6	1	-	4
Tulsa, Okla.	129	92	23	8	2	4	11
MOUNTAIN	897	599	162	78	34	18	63
Albuquerque, N.M.	100	69	18	12	1	-	3
Boise, Idaho	38	28	5	-	4	-	4
Colo. Springs, Colo.	59	42	11	3	2	1	2
Denver, Colo.	97	60	17	12	4	4	11
Las Vegas, Nev.	182	118	40	17	4	3	9
Ogden, Utah	20	18	2	-	-	-	4
Phoenix, Ariz.	157	93	34	15	8	5	8
Pueblo, Colo.	23	14	3	4	1	1	-
Salt Lake City, Utah	92	60	14	7	7	2	15
Tucson, Ariz.	129	97	18	8	3	2	7
PACIFIC	1,455	971	268	143	38	35	102
Berkeley, Calif.	20	14	5	1	-	-	1
Fresno, Calif.	64	41	11	7	3	2	-
Glendale, Calif.	10	9	-	1	-	-	1
Honolulu, Hawaii	61	50	6	2	2	1	6
Long Beach, Calif.	73	48	15	9	-	1	4
Los Angeles, Calif.	272	180	48	30	6	8	13
Pasadena, Calif.	31	28	3	-	-	-	3
Portland, Oreg.	102	66	17	13	6	-	8
Sacramento, Calif.	105	73	17	8	4	3	16
San Diego, Calif.	113	74	24	10	1	4	11
San Francisco, Calif.	112	76	23	12	1	-	14
San Jose, Calif.	182	120	33	14	5	10	17
Santa Cruz, Calif.	31	25	5	1	-	-	1
Seattle, Wash.	140	68	39	24	6	3	3
Spokane, Wash.	57	43	9	3	1	1	2
Tacoma, Wash.	82	56	13	8	3	2	2
TOTAL	11,253¶	7,535	2,165	985	319	232	654

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

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NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1996

Area	Total resident population (in thousands)	AIDS*	Botulism		Brucellosis	Chancroid†	Chlamydia†
			Foodborne	Infant			
UNITED STATES	**265,284**	**66,885**	**25**	**80**	**112**	**386**	**498,884**
NEW ENGLAND	**13,350**	**2,765**	**–**	**2**	**2**	**3**	**17,036**
Maine	1,243	50	–	–	–	–	967
N.H.	1,162	93	–	1	–	1	732
Vt.	589	25	–	–	–	–	398
Mass.	6,092	1,307	–	–	2	2	6,837
R.I.	990	178	–	–	–	–	1,833
Conn.	3,274	1,112	–	1	–	–	6,269
MID. ATLANTIC	**38,229**	**18,340**	**–**	**15**	**3**	**186**	**58,903**
N.Y. (excl. NYC)	10,856	2,427	–	–	1	1	NN
N.Y. City	7,329	9,952	–	2	–	181	26,455
N.J.	7,988	3,613	–	7	1	4	12,273
Pa.	12,056	2,348	–	6	1	–	19,275
E.N. CENTRAL	**43,615**	**5,191**	**–**	**2**	**12**	**29**	**85,572**
Ohio	11,173	1,161	–	1	2	6	20,653
Ind.	5,841	596	–	1	–	1	10,334
Ill.	11,847	2,199	–	–	8	20	24,430
Mich.	9,594	965	–	–	1	–	19,865
Wis.	5,160	270	–	–	1	2	10,290
W.N. CENTRAL	**18,469**	**1,639**	**–**	**3**	**8**	**2**	**31,212**
Minn.	4,658	304	–	1	1	–	5,607
Iowa	2,852	112	–	–	4	–	4,165
Mo.	5,359	858	–	1	2	–	11,959
N. Dak.	644	12	–	–	–	–	1,016
S. Dak.	732	14	–	–	–	–	1,538
Nebr.	1,662	100	–	–	–	–	2,478
Kans.	2,572	239	–	1	1	2	4,449
S. ATLANTIC	**47,616**	**16,621**	**–**	**4**	**10**	**28**	**101,842**
Del.	725	285	–	–	–	–	2,271
Md.	5,072	2,253	–	1	–	2	20,705
D.C.	543	1,262	–	–	–	–	1,998
Va.	6,675	1,195	–	3	–	1	11,756
W. Va.	1,826	121	–	–	–	–	2,325
N.C.	7,323	895	–	–	2	14	15,078
S.C.	3,699	869	–	–	1	8	9,391
Ga.	7,353	2,411	–	–	–	–	13,555
Fla.	14,400	7,330	–	–	7	3	24,763
E.S. CENTRAL	**16,193**	**2,284**	**2**	**2**	**4**	**3**	**32,587**
Ky.	3,884	401	1	2	–	–	6,805
Tenn.	5,320	826	1	–	2	2	13,125
Ala.	4,273	607	–	–	2	–	8,306
Miss.	2,716	450	–	–	–	1	4,351
W.S. CENTRAL	**29,290**	**6,841**	**2**	**9**	**25**	**124**	**63,513**
Ark.	2,510	269	–	–	–	1	2,111
La.	4,351	1,470	–	2	1	58	11,020
Okla.	3,301	272	–	–	1	–	7,379
Tex.	19,128	4,830	2	7	23	65	43,003
MOUNTAIN	**16,116**	**2,024**	**6**	**4**	**6**	**2**	**29,695**
Mont.	879	34	–	–	–	–	1,124
Idaho	1,189	39	3	–	2	–	1,524
Wyo.	481	7	–	–	1	–	621
Colo.	3,823	522	1	2	1	–	7,282
N. Mex.	1,713	205	–	–	1	–	4,007
Ariz.	4,428	594	1	–	1	2	10,692
Utah	2,000	196	–	2	–	–	1,598
Nev.	1,603	427	1	–	–	–	2,847
PACIFIC	**42,406**	**11,111**	**15**	**39**	**42**	**9**	**79,424**
Wash.	5,533	804	4	–	2	1	9,236
Oreg.	3,204	463	–	2	2	–	5,457
Calif.	31,878	9,610	3	35	36	8	61,555
Alaska	607	36	8	–	–	–	1,360
Hawaii	1,184	198	–	2	2	–	1,816
Guam	133	4	–	–	–	–	304
P.R.	3,783	2,243	–	–	–	2	2,481
V.I.	102	18	–	–	–	–	11
American Somoa	47	–	NA	NA	NA	NA	NA
C.N.M.I.	43	–	–	–	–	NA	NA

*Totals reported to Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), through December 31, 1996. Total includes 69 cases with unknown state of residence.

†Cases updated through Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of June 13, 1997.

NA: Not Available
NN: Not Notifiable
–: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1996 (continued)

Area	Cholera	Diphtheria	*Escherichia coli* O157:H7 NETSS*	*Escherichia coli* O157:H7 PHLIS†	Gonorrhea§	*Haemophilus influenzae*, invasive
UNITED STATES	**4**	**2**	**2,741**	**1,862**	**325,883**	**1,170**
NEW ENGLAND	**–**	**–**	**346**	**205**	**6,318**	**55**
Maine	–	–	23	–	55	1
N.H.	–	–	39	40	153	13
Vt.	–	–	36	34	47	2
Mass.	–	–	162	131	2,189	36
R.I.	–	–	16	–	486	2
Conn.	–	–	70	–	3,388	1
MID. ATLANTIC	**–**	**1**	**241**	**102**	**40,128**	**213**
N.Y. (excl. NYC)	–	–	159	23	7,606	50
N.Y. City	–	1	20	–	12,998	57
N.J.	–	–	62	57	8,721	65
Pa.	–	–	NN	22	10,803	41
E.N. CENTRAL	**1**	**1**	**564**	**447**	**59,159**	**191**
Ohio	–	–	155	107	14,946	95
Ind.	–	1	89	57	6,638	21
Ill.	–	–	220	139	17,964	50
Mich.	1	–	100	73	15,130	12
Wis.	–	–	NN	71	4,481	13
W.N. CENTRAL	**–**	**–**	**564**	**437**	**15,684**	**63**
Minn.	–	–	239	242	2,697	48
Iowa	–	–	123	105	1,145	4
Mo.	–	–	74	57	8,421	8
N. Dak.	–	–	19	17	37	–
S. Dak.	–	–	26	–	176	1
Nebr.	–	–	50	4	1,164	1
Kans.	–	–	33	12	2,044	1
S. ATLANTIC	**1**	**–**	**157**	**95**	**96,386**	**273**
Del.	–	–	3	2	1,456	2
Md.	–	–	3	9	11,592	76
D.C.	–	–	3	–	4,432	5
Va.	–	–	NN	36	9,293	11
W. Va.	–	–	NN	3	736	11
N.C.	–	–	47	17	18,229	26
S.C.	–	–	13	11	11,661	5
Ga.	–	–	39	–	19,806	52
Fla.	1	–	49	17	19,181	85
E.S. CENTRAL	**–**	**–**	**88**	**72**	**35,849**	**45**
Ky.	–	–	18	12	4,229	6
Tenn.	–	–	42	57	11,709	25
Ala.	–	–	15	3	13,169	13
Miss.	–	–	13	–	6,742	1
W.S. CENTRAL	**1**	**–**	**89**	**17**	**42,392**	**44**
Ark.	–	–	13	6	5,056	–
La.	1	–	9	4	9,315	6
Okla.	–	–	14	3	4,897	32
Tex.	–	–	53	4	23,124	6
MOUNTAIN	**–**	**–**	**218**	**113**	**7,445**	**57**
Mont.	–	–	27	–	38	1
Idaho	–	–	40	13	98	1
Wyo.	–	–	11	9	41	–
Colo.	–	–	80	45	1,367	16
N. Mex.	–	–	14	4	890	11
Ariz.	–	–	NN	29	3,709	20
Utah	–	–	29	–	277	8
Nev.	–	–	17	13	1,025	–
PACIFIC	**1**	**–**	**474**	**374**	**22,522**	**229**
Wash.	–	–	187	167	2,020	10
Oreg.	–	–	98	70	887	33
Calif.	1	–	184	124	18,652	178
Alaska	–	–	5	4	486	6
Hawaii	–	–	NN	9	497	2
Guam	1	–	–	NA	56	–
P.R.	–	–	44	NA	648	2
V.I.	–	–	–	NA	12	–
American Samoa	NA	NA	NA	NA	NA	NA
C.N.M.I.	1	–	–	NA	NA	10

*National Electronic Telecommunications System for Surveillance.
†Public Health Laboratory Information System, cases updated through National Center for Infectious Diseases through July 17, 1997.
§Cases updated through Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of June 13, 1997.

NA: Not Available
NN: Not Notifiable
–: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1996 (continued)

Area	Hansen disease (leprosy)	Hepatitis A	Hepatitis B	Hepatitis C/non-A, non-B	Legionellosis	Lyme disease	Malaria
UNITED STATES	**112**	**31,032**	**10,637**	**3,716**	**1,198**	**16,455**	**1,800**
NEW ENGLAND	**4**	**456**	**255**	**113**	**80**	**4,095**	**84**
Maine	–	28	8	–	5	63	10
N.H.	–	22	21	7	4	47	4
Vt.	–	12	14	26	5	26	8
Mass.	4	229	111	74	34	321	32
R.I.	–	26	19	6	32	534	12
Conn.	–	139	82	–	NN	3,104	18
MID. ATLANTIC	**5**	**1,985**	**1,413**	**337**	**263**	**10,305**	**467**
N.Y. (excl. NYC)	–	438	358	272	80	4,900	96
N.Y. City	5	609	491	3	19	401	269
N.J.	–	394	279	–	15	2,190	68
Pa.	–	544	285	62	149	2,814	34
E.N. CENTRAL	**–**	**2,619**	**1,103**	**490**	**360**	**498**	**170**
Ohio	–	785	120	35	116	32	15
Ind.	–	367	143	8	51	32	15
Ill.	–	763	335	93	38	10	83
Mich.	–	506	416	354	109	28	41
Wis.	–	198	89	–	46	396	16
W.N. CENTRAL	**2**	**2,656**	**572**	**111**	**71**	**365**	**51**
Minn.	2	176	94	10	15	251	26
Iowa	–	334	74	53	11	19	3
Mo.	–	1,414	326	23	18	52	11
N. Dak.	–	140	2	–	–	2	1
S. Dak.	–	43	5	–	3	–	–
Nebr.	–	156	39	9	18	5	3
Kans.	–	393	32	16	6	36	7
S. ATLANTIC	**4**	**1,980**	**1,573**	**235**	**197**	**823**	**340**
Del.	–	21	9	1	12	173	4
Md.	–	256	169	4	39	447	87
D.C.	–	39	32	–	9	3	9
Va.	1	218	163	17	54	57	60
W. Va.	NN	19	36	9	NN	12	6
N.C.	–	204	337	46	12	86	30
S.C.	–	57	101	34	8	9	13
Ga.	1	414	61	–	3	1	38
Fla.	2	732	665	124	60	55	93
E.S. CENTRAL	**–**	**1,273**	**914**	**590**	**59**	**83**	**42**
Ky.	–	53	76	29	11	26	12
Tenn.	–	778	516	400	26	24	14
Ala.	–	217	78	8	5	9	8
Miss.	–	225	244	153	17	24	8
W.S. CENTRAL	**31**	**6,807**	**1,616**	**515**	**53**	**175**	**158**
Ark.	1	500	93	8	1	27	2
La.	1	261	209	292	4	9	12
Okla.	–	2,586	56	7	16	42	3
Tex.	29	3,460	1,258	208	32	97	141
MOUNTAIN	**2**	**4,573**	**1,164**	**555**	**58**	**9**	**65**
Mont.	–	130	21	20	1	–	7
Idaho	1	247	88	99	–	2	–
Wyo.	–	41	45	179	7	3	7
Colo.	–	512	132	64	12	–	26
N. Mex.	–	355	417	77	2	1	3
Ariz.	–	1,767	237	76	21	–	9
Utah	1	1,073	129	19	8	1	5
Nev.	–	448	95	21	7	2	8
PACIFIC	**64**	**8,703**	**2,027**	**770**	**57**	**102**	**423**
Wash.	1	1,001	158	66	8	18	41
Oreg.	–	875	129	8	–	19	24
Calif.	48	6,653	1,710	479	43	64	343
Alaska	–	54	16	NA	1	–	3
Hawaii	15	120	14	217	5	1	12
Guam	–	7	1	6	1	–	–
P.R.	–	292	1,195	180	–	–	2
V.I.	–	41	44	–	1	–	1
American Somoa	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	–	1	5	–	–	–	–

NA: Not Available
NN: Not Notifiable
–: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1996 (continued)

Area	Measles		Meningo-coccal disease	Mumps	Pertussis	Plague	Polio-myelitis, paralytic
	Indigenous	Imported*					
UNITED STATES	**443**	**65**	**3,437**	**751**	**7,796**	**5**	**5**
NEW ENGLAND	**13**	**4**	**171**	**5**	**1,866**	**–**	**–**
Maine	–	–	15	–	55	–	–
N.H.	–	–	13	1	197	–	–
Vt.	1	1	4	1	280	–	–
Mass.	9	3	71	1	1,245	–	–
R.I.	1	–	18	1	40	–	–
Conn.	2	–	50	1	49	–	–
MID. ATLANTIC	**24**	**14**	**331**	**96**	**952**	**–**	**1**
N.Y. (excl. NYC)	3	9	102	28	533	–	–
N.Y. City	8	3	56	20	61	–	–
N.J.	3	–	79	4	31	–	1
Pa.	10	2	144	44	327	–	–
E.N. CENTRAL	**14**	**7**	**475**	**135**	**837**	**–**	**1**
Ohio	4	2	159	52	289	–	1
Ind.	–	–	64	8	128	–	–
Ill.	2	1	142	24	192	–	–
Mich.	–	3	51	48	59	–	–
Wis.	8	1	59	3	169	–	–
W.N. CENTRAL	**21**	**3**	**264**	**24**	**573**	**–**	**–**
Minn.	17	2	39	7	433	–	–
Iowa	–	1	56	3	32	–	–
Mo.	3	–	98	10	74	–	–
N. Dak.	–	–	5	2	1	–	–
S. Dak.	–	–	10	–	4	–	–
Nebr.	–	–	29	–	15	–	–
Kans.	1	–	27	2	14	–	–
S. ATLANTIC	**3**	**9**	**659**	**131**	**793**	**–**	**1**
Del.	1	–	3	–	26	–	–
Md.	–	2	58	37	278	–	–
D.C.	–	–	5	–	4	–	–
Va.	–	3	67	19	108	–	–
W. Va.	–	–	18	–	7	–	–
N.C.	1	1	79	27	186	–	–
S.C.	–	–	65	7	49	–	–
Ga.	1	2	147	9	35	–	–
Fla.	–	1	217	32	100	–	1
E.S. CENTRAL	**2**	**–**	**246**	**23**	**202**	**–**	**–**
Ky.	–	–	31	–	142	–	–
Tenn.	2	–	65	1	24	–	–
Ala.	–	–	95	6	26	–	–
Miss.	–	–	55	16	10	–	–
W.S. CENTRAL	**24**	**3**	**365**	**67**	**201**	**–**	**1**
Ark.	–	–	35	1	14	–	–
La.	–	1	66	21	15	–	–
Okla.	–	–	46	1	21	–	–
Tex.	24	2	218	44	151	–	1
MOUNTAIN	**153**	**4**	**183**	**25**	**660**	**5**	**–**
Mont.	–	–	9	–	37	–	–
Idaho	1	–	25	–	115	–	–
Wyo.	1	–	4	1	8	–	–
Colo.	4	3	44	5	336	1	–
N. Mex.	17	–	27	NN	64	2	–
Ariz.	8	–	37	1	33	2	–
Utah	117	1	18	3	26	–	–
Nev.	5	–	19	15	41	–	–
PACIFIC	**189**	**21**	**693**	**245**	**1,712**	**–**	**1**
Wash.	36	2	116	26	830	–	–
Oreg.	13	1	123	NN	64	–	–
Calif.	37	9	437	185	780	–	1
Alaska	63	–	9	3	3	–	–
Hawaii	40	9	8	31	35	–	–
Guam	–	–	5	10	–	–	–
P.R.	3	–	13	2	3	–	–
V.I.	–	–	–	2	–	–	–
American Somoa	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	–	–	–	–	–	–	–

*Imported cases include only those resulting from importation from other countries.

NA: Not Available
NN: Not Notifiable
–: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1996 (continued)

Area	Psitta-cosis	Rabies		RMSF*	Rubella		Salmonel-losis	Shigel-losis	Syphilis, Cong. (<1 yr.)†
		Animal	Human		Rubella	Cong. syndrome			
UNITED STATES	42	6,982	3	831	238	4	45,471	25,978	1,162
NEW ENGLAND	–	748	1	19	27	–	2,821	550	10
Maine	–	131	–	–	–	–	159	16	–
N.H.	–	54	1	–	–	–	133	20	–
Vt.	–	135	–	–	2	–	101	12	1
Mass.	–	115	–	12	21	–	1,640	265	7
R.I.	–	39	–	2	–	–	198	50	–
Conn.	–	274	–	5	4	–	590	187	2
MID. ATLANTIC	2	1,550	–	56	13	–	7,470	3,308	302
N.Y. (excl. NYC)	–	1,080	–	15	5	–	1,940	500	24
N.Y. City	–	NA	–	19	5	–	1,920	630	130
N.J.	2	140	–	9	2	–	1,580	434	90
Pa.	–	330	–	13	1	–	2,030	1,744	58
E.N. CENTRAL	11	92	–	30	3	1	6,100	1,943	147
Ohio	5	13	–	17	–	–	1,632	559	15
Ind.	–	9	–	8	–	–	590	161	4
Ill.	3	25	–	4	1	–	1,972	683	103
Mich.	1	31	–	1	2	1	1,012	451	22
Wis.	2	14	–	–	–	–	894	89	3
W.N. CENTRAL	4	551	–	27	–	–	2,343	1,060	17
Minn.	3	37	–	1	–	–	653	166	2
Iowa	–	237	–	1	–	–	335	151	–
Mo.	1	26	–	19	–	–	565	387	15
N. Dak.	–	77	–	–	–	–	63	80	–
S. Dak.	–	132	–	1	–	–	119	94	–
Nebr.	–	5	–	3	–	–	189	70	–
Kans.	–	37	–	2	–	–	419	112	–
S. ATLANTIC	5	2,837	–	489	101	1	9,457	6,140	220
Del.	–	80	–	2	–	–	151	155	–
Md.	–	637	–	38	–	–	1,160	985	30
D.C.	–	11	–	1	1	–	125	199	14
Va.	1	612	–	54	2	–	1,229	746	12
W. Va.	1	100	–	3	–	–	128	96	–
N.C.	–	740	–	289	86	1	1,466	565	24
S.C.	–	88	–	23	1	–	873	212	35
Ga.	–	303	–	65	–	–	1,467	1,125	30
Fla.	3	266	–	14	11	–	2,858	2,057	75
E.S. CENTRAL	1	236	1	122	2	–	1,968	1,683	107
Ky.	–	42	1	29	–	–	421	1,151	6
Tenn.	–	97	–	47	–	–	508	210	28
Ala.	1	92	–	15	2	–	508	144	20
Miss.	–	5	–	31	NN	–	531	178	53
W.S. CENTRAL	–	435	–	74	9	–	4,414	3,813	154
Ark.	–	29	–	22	–	–	455	176	23
La.	–	17	–	2	1	–	616	562	9
Okla.	–	38	–	45	–	–	543	318	10
Tex.	–	351	–	5	8	–	2,800	2,757	112
MOUNTAIN	7	157	1	13	9	2	2,727	2,830	10
Mont.	–	26	1	3	–	–	101	63	–
Idaho	1	–	–	1	2	–	135	97	1
Wyo.	3	33	–	7	–	–	57	9	–
Colo.	2	43	–	2	3	–	670	660	3
N. Mex.	–	6	–	–	–	–	324	473	96
Ariz.	–	37	–	–	3	2	619	1,124	5
Utah	–	5	–	–	–	–	525	307	96
Nev.	1	7	–	–	1	–	296	97	1
PACIFIC	12	376	–	1	74	–	8,171	4,651	195
Wash.	4	6	–	1	15	–	734	333	1
Oreg.	2	5	–	–	1	–	386	163	–
Calif.	6	355	–	–	55	–	6,544	3,952	194
Alaska	–	10	–	–	–	–	79	116	–
Hawaii	–	–	–	–	3	–	428	87	196
Guam	–	–	–	–	–	–	39	43	–
P.R.	–	58	–	–	–	–	821	55	8
V.I.	–	–	–	–	–	–	11	8	196
American Somoa	NA	NA	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	–	–	–	–	–	–	11	8	–

*Rocky Mountain spotted fever.
†Cases updated through Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of June 13, 1997.

NA: Not Available
NN: Not Notifiable
–: No reported cases

NOTIFIABLE DISEASES — Reported cases, by geographic division and area, United States, 1996 (continued)

Area	Syphilis* Primary & secondary	Syphilis* All stages	Tetanus	Toxic-shock syndrome	Trich-inosis	Tuber-culosis†	Typhoid fever	Yellow fever
UNITED STATES	**11,387**	**52,976**	**36**	**145**	**11**	**21,337**	**396**	**1**
NEW ENGLAND	**194**	**1,074**	**1**	**8**	**1**	**481**	**23**	**–**
Maine	1	4	–	3	–	21	–	–
N.H.	1	29	–	3	–	21	2	–
Vt.	–	1	–	–	–	4	–	–
Mass.	85	634	1	2	1	262	18	–
R.I.	4	72	–	–	–	35	–	–
Conn.	103	334	–	–	–	138	3	–
MID. ATLANTIC	**555**	**9,426**	**5**	**28**	**2**	**3,991**	**134**	**–**
N.Y. (excl. NYC)	76	728	3	9	2	535	21	–
N.Y. City	138	5,800	2	4	–	2,053	64	–
N.J.	177	1,458	–	–	–	820	40	–
Pa.	164	1,440	–	15	–	583	9	–
E.N. CENTRAL	**1,651**	**5,414**	**5**	**33**	**4**	**2,120**	**36**	**–**
Ohio	584	1,324	–	4	–	301	4	–
Ind.	207	673	–	2	1	202	4	–
Ill.	501	2,070	1	7	2	1,060	16	–
Mich.	183	851	1	19	–	443	10	–
Wis.	176	496	3	1	1	114	2	–
W.N. CENTRAL	**294**	**985**	**2**	**26**	**–**	**548**	**6**	**–**
Minn.	16	116	1	9	–	131	1	–
Iowa	23	86	–	4	–	70	1	–
Mo.	221	618	1	5	–	224	2	–
N. Dak.	–	–	–	2	–	8	–	–
S. Dak.	–	2	–	–	–	19	–	–
Nebr.	6	27	–	1	–	22	1	–
Kans.	28	136	–	5	–	74	1	–
S. ATLANTIC	**3,791**	**14,086**	**5**	**16**	**–**	**4,016**	**61**	**–**
Del.	35	124	–	1	–	43	–	–
Md.	729	2,228	–	2	–	319	18	–
D.C.	116	626	–	–	–	139	–	–
Va.	393	1,261	–	1	–	349	11	–
W. Va.	7	59	–	–	–	57	–	–
N.C.	1,052	2,663	–	2	–	554	–	–
S.C.	402	1,277	2	3	–	348	–	–
Ga.	689	2,954	–	6	–	790	1	–
Fla.	368	2,894	3	1	–	1,417	31	–
E.S. CENTRAL	**2,351**	**6,966**	**2**	**1**	**3**	**1,437**	**7**	**1**
Ky.	154	399	–	–	–	259	1	–
Tenn.	850	2,315	1	1	3	504	3	1
Ala.	528	1,887	1	–	–	423	3	–
Miss.	819	2,365	–	NN	–	251	–	–
W.S. CENTRAL	**1,864**	**9,547**	**6**	**3**	**1**	**2,949**	**19**	**–**
Ark.	262	834	–	1	–	225	1	–
La.	533	2,403	2	–	–	420	1	–
Okla.	179	467	1	2	1	201	–	–
Tex.	890	5,843	3	–	–	2,103	17	–
MOUNTAIN	**160**	**934**	**1**	**9**	**–**	**711**	**8**	**–**
Mont.	–	4	–	–	–	19	–	–
Idaho	4	24	–	2	–	15	–	–
Wyo.	2	8	–	–	–	7	–	–
Colo.	26	162	1	5	–	104	3	–
N. Mex.	3	78	–	–	–	89	2	–
Ariz.	102	467	–	1	–	282	–	–
Utah	3	49	–	–	–	58	1	–
Nev.	20	142	–	1	–	137	2	–
PACIFIC	**527**	**4,544**	**9**	**21**	**–**	**5,084**	**102**	**–**
Wash.	9	129	1	1	–	285	4	–
Oreg.	9	70	1	–	–	190	4	–
Calif.	506	4,300	7	20	–	4,313	84	–
Alaska	–	15	–	–	–	96	1	–
Hawaii	3	30	–	–	–	200	9	–
Guam	–	3	–	–	–	112	1	–
P.R.	208	1,467	2	–	–	222	1	–
V.I.	11	17	1	–	–	9	–	–
American Somoa	NA	NA	NA	NA	NA	NA	NA	NA
C.N.M.I.	–	–	–	–	–	–	–	–

*Cases updated through Division of Sexually Transmitted Diseases Prevention, NCHSTP, as of June 13, 1997.
†Cases updated through Division of Tuberculosis Elimination, NCHSTP, as of May 28, 1997.

NA: Not Available
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☆U.S. Government Printing Office: 1997-532-228/67018 Region IV

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